

Board's chair on future of Institute

*Millard stresses
supporting role*

By Katherine Nazemi
ASSOCIATE NEWS EDITOR

Leadership of MIT's Corporation changed hands this fall, with Robert B. Millard '73 elected as the Corporation's new chairman.

In an interview with *The Tech*, Millard discussed his role as chairman and the future of MIT, particularly in the context of the final report of the Task Force on the Future of MIT Education.

"I think higher education and MIT in particular is in one of those immensely important transitional phases," Millard said. "There are basically three things we do here. We educate, we do research, and as a consequence of the first two, we innovate."

Millard continued, "The biggest set of questions affecting the first of those missions is embodied in that Task Force [on the Future of MIT Education]. The second question, which is research, is equally important. How we fund the important research in a world of declining federal attention span and money is a very, very important question."

He also answered questions about calls for MIT's divestment from fossil fuel companies and described the role of the Corporation, emphasizing its partnership with the administration.

Task Force on the Future of MIT Education

The Task Force on the Future of MIT Education, launched by President L. Rafael Reif in February of last year, released its final report in August after several months of data collection and experimentation. The report offered 16 recommendations encompassing all areas of academic life — from transforming pedagogy on campus to extending MIT's impact across the globe.

"One big project is to sift through, decide, and implement the results of the Task Force. It's not every day that MIT produces a task force like that — you can count on one hand the number in two decades," Millard said. "It's pregnant with amazing possibilities."

The Task Force's report made recommendations including expanding the freshman learning community program, and increasing the use of online and blended teaching styles, particularly in communications subjects.

edX

The final report of the Task Force stressed the potential for edX and other online learning resources to aid innovation in education. The ultimate impact of online and distance

Millard, Page 9



ALEXANDER C. BOST—THE TECH

President Reif signs the MIT Bystander Pledge on Tuesday morning in support of the It's On Us campaign, which aims to raise awareness of sexual assault and provide support to sexual assault survivors across the U.S.

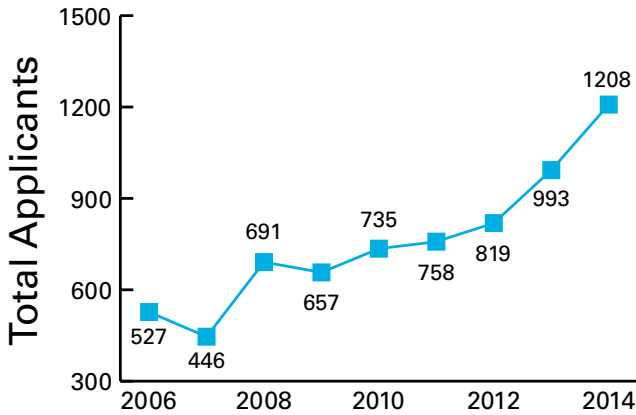
Externship numbers increase

Finance companies were most popular in program

By Ray Wang
STAFF REPORTER

A record 1208 students sent in over 3000 applications to the MIT Alumni Association's Externship Program this year, according to Katie C. Maloney, Director of Parent Association and Student/Alumni Relations. Over a third of the applicants plan to spend this January's Independent Activities Period (IAP) working with alumni sponsors worldwide.

The externship program has grown substantially over its 18 years of operation, and it saw an increase of 215 applicants and 545 applications over last year. Of the 1208 students that competed for hundreds of externships, 1045 of them are undergraduates and 163 are graduates.



INFOGRAPHIC BY: WILL CONWAY

Of all listed externships, students can apply for up to three, in fields such as financial services, engineering, and medicine. The first of two rounds of matching occurred on October 30, in which 396 students accepted

externships and 117 declined. Those who declined were ineligible for the second round of matching that took place on November 12. The smaller second

Externships Page 8

IN SHORT

Nominations for the Dr. Martin Luther King Jr. Leadership Award for outstanding service to the community are open until Dec. 19.

The MIT \$100K Accelerate Competition application deadline is Monday, Nov. 25. Register online at <http://mit100kaccelerate2014.istart.org>

The next Red Cross Blood drive at MIT will take place Monday, Nov. 24 and Tuesday, Nov. 25 in La Sala de Puerto Rico (W20-202).

The deadline for MIT Intramural Sports registration for IAP is Sunday, Nov. 30. Teams should visit <http://IMLeagues.com> to sign up or contact alysomb@mit.edu for more information.

Send news information and tips to news@tech.mit.edu.

Olympic Committee visits MIT regarding Boston bid

On Nov. 18, the United States Olympic Committee (USOC) visited Boston and MIT's campus to evaluate Boston's bid to host the 2024 Summer Olympics and Paralympic Games, according to the MIT News Office.

"This was an opportunity for Boston to showcase itself as a center of innovation with a passion for sport, and for members of the U.S. Olympic Committee to experience the city," said Israel Ruiz, MIT's executive vice president and treasurer. Ruiz is one of four co-chairs for the Boston 2024 Institutional Outreach Subcommittee, a group creating support for the city's Olympic bid among Boston universities.

The News Office reported that if Boston is selected, MIT would be a potential sports venue for archery and fencing. Ruiz

Olympics bid, Page 10



CHRISTOPHER A. MAYNOR—THE TECH

Jean-Luc Schneider (left), deputy director of the Policy Studies and Economics department at the Organization for Economic Cooperation and Development (OECD), and Dr. Daron Acemoglu, an Economics professor at MIT and co-author of the bestseller *Why Nations Fail*, discuss the recent course of global prosperity and where it is headed in a dialogue moderated by OECD Student Ambassador Caroline B. Shinkle '15 last Thursday evening in Wong Auditorium.

ZONING OUT

What are you up to during important meetings?
FUN, p. 5

SUDOKU

We know you're not psetting.
FUN, p. 5
TECHDOKU
See above. **FUN, p. 5**

INTERSTELLAR

Have you seen the movie yet?
INSTITUTE DOUBLE-TAKE, p. 7



PASSING QUALS

What would you do?
FUN, p. 5

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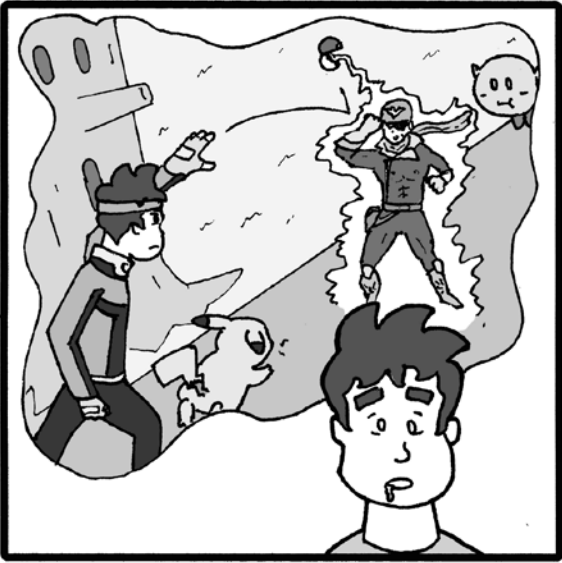
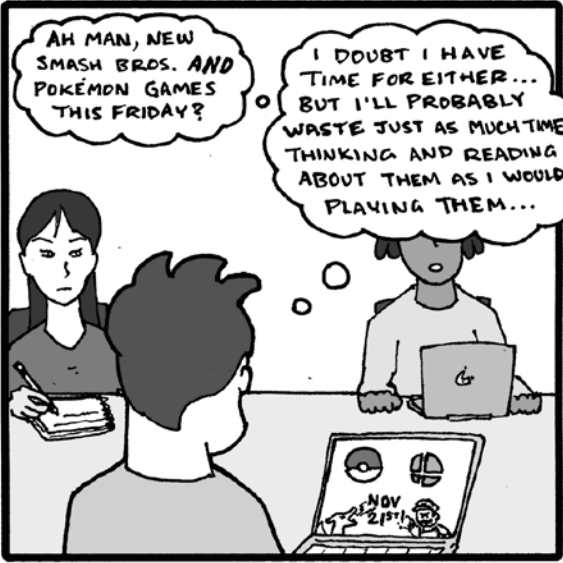
There is only one startup in the world backed by the largest software company in the world and the most powerful bank in the world.

The logo for Kensho, featuring the word "KENSHO" in a bold, black, sans-serif font. The letter "O" is stylized as a circle with a small gap at the top right, resembling a circular arrow or a stylized "C".

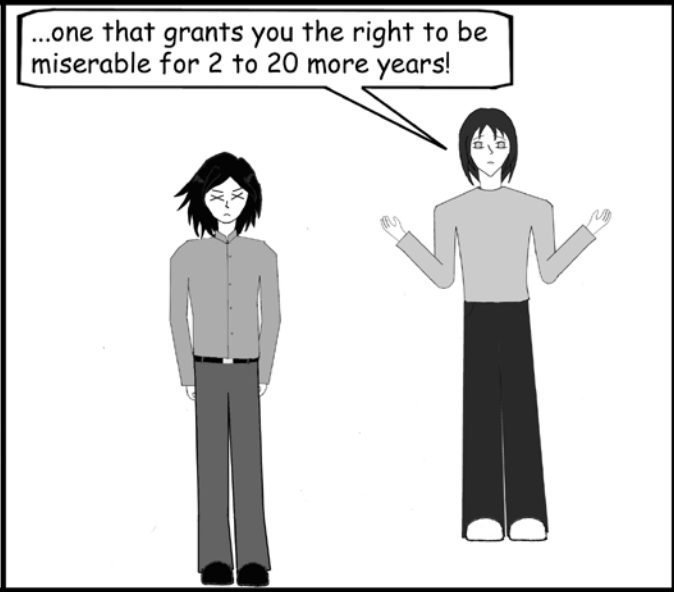
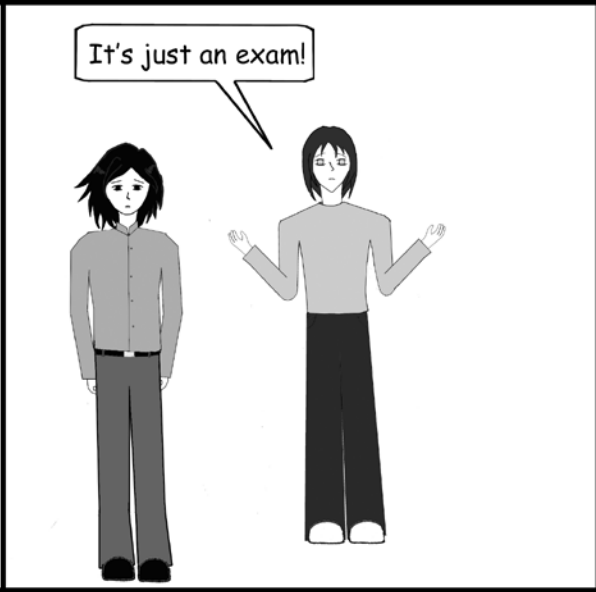
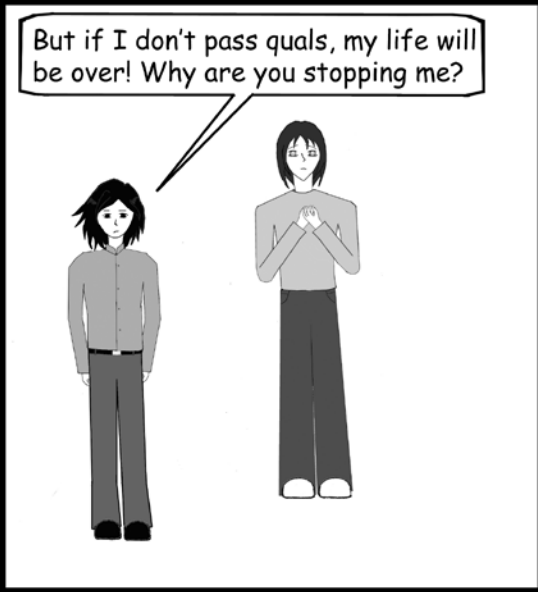
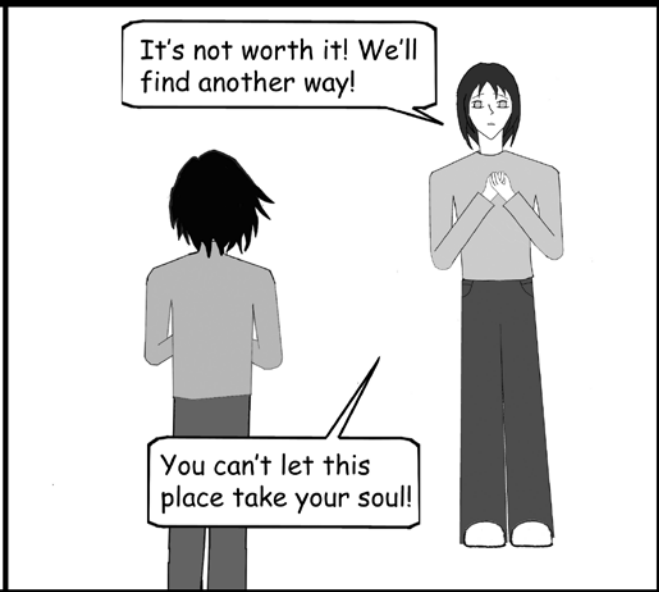
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UPPERCUT by Steve Sullivan



Somewhere on the Search for Meaning... by Letitia Li



Sudoku

Solution, page 9

			3		9			8
			1	5		7	2	
				7	2		3	
	4	6	9					
5		7				6		1
					7	5	4	
	5		7	2				
	7	1		3	8			
3			5		6			

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku

Solution, page 9

6x		480x		
360x			1	2÷
	360x			3
2		30x	24x	5
1			15x	4
3	4÷			12x

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

WEATHER

Warm up on the way

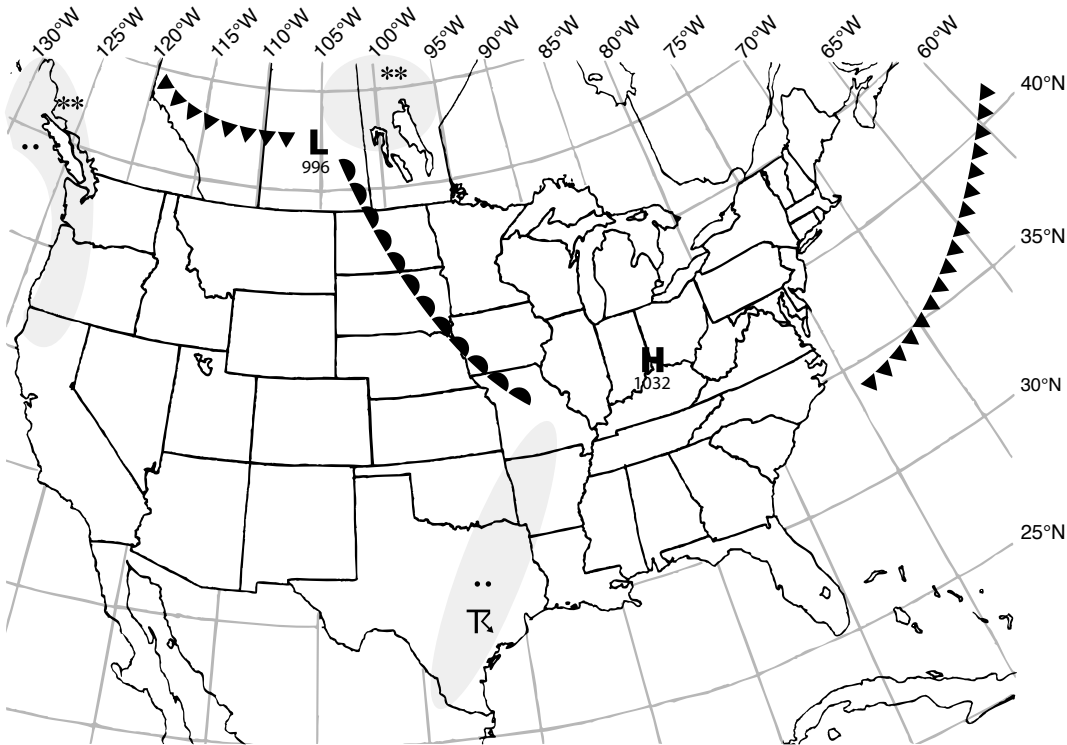
By Costa Christopoulos
STAFF METEOROLOGIST

The pesky trough which kept weather in the area cold and rainy this week will gradually transition to the east tonight. A ridge will begin to influence the eastern US tomorrow, allowing highs to reach the lower 40s°F (5°C). On Sunday, the ridge amplifies allowing much warmer air to overspread the region. Southerly winds will notch highs into the lower 50s°F (10°C) and bring overcast skies to the area. Winds could gust as high as 25 mph. We finally make it into the

lower 60s °F (10°C) on Monday, but the trade-off is rainy weather. Our neighbors to the west aren't so lucky. This week, the Great Lakes region has been measuring snowfall in terms of feet. A cold airmass, which moved over the region earlier week, set the stage for several days of intense lake effect snow. Widespread snowfall totals of more than 40 inches were reported, with locations under the heaviest and most persistent bands picking up more than 63 inches! With that in mind, enjoy another warm weekend in Cambridge.

Extended Forecast

Today: Mostly sunny, with a high of 37°F (3°C). Northwest wind at around 15 mph, with gusts as high as 25 mph.
Tonight: Clear, with a low of 24°F (-5°C). West wind at around 7 mph.
Tomorrow: Partly cloudy, with a high of 42°F (6°C). Southwest wind at around 15 mph.
Sunday: Mostly cloudy, with a chance a morning showers. High in the lower 50s°F (10°C).
Monday: Rain likely, with a high in the lower 60s°F (16°C)



Situation for Noon Eastern Time, Friday, November 21, 2014

Weather Systems	Weather Fronts	Precipitation Symbols		Other Symbols
		Snow	Rain	
H High Pressure	--- Trough	* (Snowflake)	∇ (Inverted Triangle)	☁ Fog
L Low Pressure	— Warm Front	* (Snowflake)	• (Dot)	⚡ Thunderstorm
§ Hurricane	▲▲▲ Cold Front	** (Two Snowflakes)	•• (Two Dots)	∞ Haze
	▲ Stationary Front	⚡ (Lightning Bolt)	••• (Three Dots)	Compiled by MIT Meteorology Staff and The Tech

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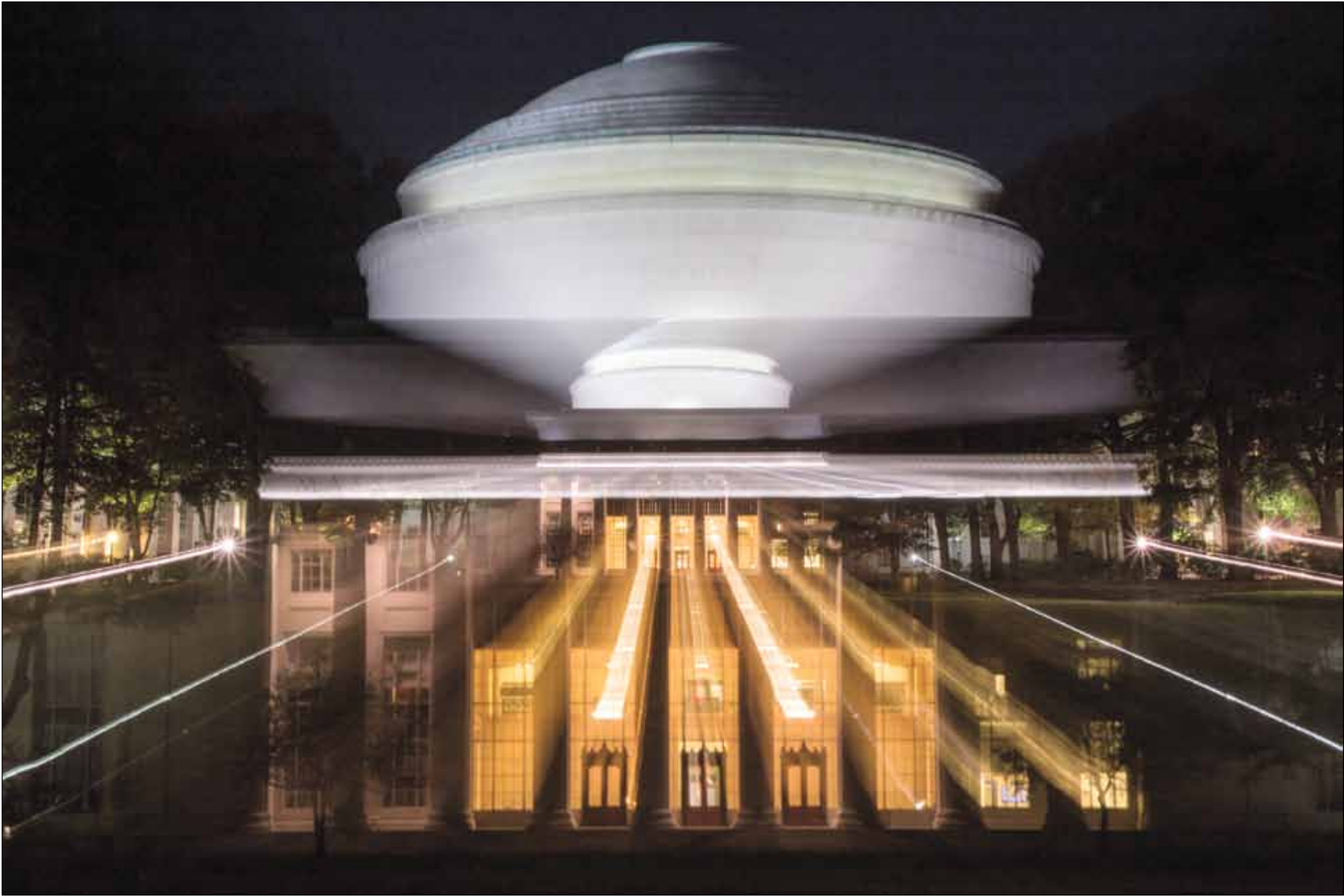
Outcomes
That Matter



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Institute Double Take



By Tamas Kolos-Lakatos

This photo is a long exposure shot of the MIT Great Dome taken shortly after midnight. I recently got a new camera and was eager to take it out on a night photo adventure, no matter how cold it was that evening. After a few star trail shots with the Boston skyline, I decided to head to campus. There are many

photos of the iconic Great Dome on the internet, so I wanted to try something different. I started exposing the image at 55 mm, and after two seconds I manually adjusted the zoom ring until I reached the wide-angle 17 mm view with another 2 seconds remaining on the shutter. I had to try it a few times to make sure I timed it right and got the zooming movement as smooth as possible. The result was an unusual, interstellar look to MIT.

Aperture:
f/22

Exposure Time:
20 sec.

Sensitivity:
ISO 200

Effective Focal Length:
17-55 mm

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More students vie for 2015 externships than last year

Trading and finance opportunities among most sought after externship positions in this year's cycle

Externships, from Page 1

round saw only 27 students accept externships and 20 decline.

Many of the most popular externships were for trading companies, such as Five Rings Capital, Bank of America Merrill Lynch, Goldman Sachs, and Jane Street Capital. These companies received a combined total of 178 applications for their trading opportunities, and each ranked in the top ten for most applications received. By far the most sought-

after position was assistant trader at Jane Street Capital, which received 83 applications.

Rajeev K. Parvathala '18, who had no prior experience in trading, was one of the students who received an offer from Jane Street. "I heard a lot of good things about it [the assistant trader position] from upperclassmen," said Parvathala. "I enjoyed the interview process — all the questions were very mathematical and that's one of the things that made me think I would enjoy

the work."

Parvathala will spend the month of January in New York City at Jane Street's first and largest office.

The most competitive program was a health care externship, Introduction to Surgery and Medicine at Tufts University one student was accepted from 30 applicants. Other highly desirable externships included machine learning positions at Microsoft and Diffie, both of which received 40 applications.



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New chair highlights Task Force recommendations

Millard states need for ‘precision’ when dealing with issues associated with divestment

Millard, from Page 1

learning on the traditional college campus and learning experience is a question MIT, like many schools, is exploring.

Millard has firsthand experience with edX classes: like other MIT students completing General Institute Requirements (GIRs), he enrolled in 7.012.

“I really enjoyed every minute of it,” Millard said. “I took a course, partly because I was really interested in biology, and partly because I wanted to see how it really worked... I do know it’s not for everything. It worked very well in biology.”

In assessing how the experience stacked up to taking a course in person, Millard noted a difference between working online versus in a classroom.

“So the first question is, did I learn the subject as well as if I were sitting here in Cambridge Mass.? I think I did — I did well in the course and I learned a lot. I got what I wanted out of it, but what I did lack was just the interaction. And there’s something that comes through the ether, whether in your living group you’re stumped on a question and you go ask someone else, or you’re

in a room and you don’t think you’re learning anything from the experience, but there’s something intangible that happens when you’re just discussing.”

Millard stressed that while the long-term impact of online education is still uncertain, elements of traditional education, such as presence on a college campus, will still retain their value.

“How is [online education] going to restructure the curriculum and what is it really going to mean in the long term? The answer is, I don’t know and I don’t think anyone else really knows,” Millard said. “edX and online education are in many instances better ways to communicate. So I think it’s a means to an end, and not an end in itself. I don’t think it’s going to fundamentally change the value of being in Cambridge, Massachusetts.”

Divestment

MIT’s recently-launched Climate Change Conversation, led by Maria Zuber, has brought the issue of climate change to the broader community. One of the issues likely to be brought up by the group is MIT’s divestment from fossil fuel companies.

When asked how the Corpora-

tion should respond to growing calls for divestment, Millard stressed the need for precision in the broader discussion.

“This is a subject that I think requires a little more precision than the public has been interested in,” he said. “The thing that’s different about MIT — the thing that happens better here than anywhere else in the world is objectivity. Fact, not rhetoric or publicity or emotional knee-jerk reactions. So Maria is going to get this conversation going... and part of it is going to be about divestment. There are some degrees of freedom, and some non degrees of freedom.”

“I don’t think the Corporation should respond, at least at this point,” he said. “We’re listening carefully right now and we’re still collecting data. The endowment has not made any decisions. We’re waiting for Maria’s group, and I don’t want to preempt it with any of my own feelings.”

In answer to how he felt other universities handled the issue, Millard cited Yale’s response as a constructive one.

In a recent statement, the Yale Corporation Committee on Investor Responsibility gave support to

the importance of climate change as a global issue, but reported that divestment would not be supported by its policy regarding ethical investing. They did, however, issue a statement of support for shareholders resolutions seeking increased transparency from companies on issues regarding climate change.

“There are some reactions which I think were constructive and I didn’t think of. I think Yale’s in particular was constructive,” Millard said. “We run our endowment much as Yale does, much as Harvard does. We don’t manage the money ourselves, we hire managers who manage the money. So we can influence them. We do some direct investment, and that we have complete control over.”

The Corporation

“The governance of this place works very, very well. My first priority is to keep it running as a well oiled machine,” Millard said. “I have some sort of dotted line responsibilities — if you read the bylaws of this place, one of the things the Executive Committee and the Board has responsibility for, and I have responsibility for, is the stewardship of financial assets and the raising of resources. Sadly, we and other universities like

us need money, and I would like to broaden the aperture. Working with resource development and working with the departments, I would like to be helpful to that.”

“I want to be, and I want the Corporation to be, the most effective partner we can possibly be to the administration, because the administration runs the place,” Millard said. “My vision is a shared vision — it’s a shared vision with the administration.”

The Corporation is MIT’s governing body, charged with ensuring that MIT adheres to its founding principles, overseeing MIT’s assets, and generating new funds and assets for the Institute’s future financial security.

As chairman, Millard leads Corporation meetings and heads the Executive Committee, the Corporation Development Committee, and the Membership Committee. In addition, he is a member of the Investment Management Company Board.

Millard brings the perspective of his years as an MIT undergraduate as well as his career in business and finance, and his years serving on the Executive Committee of the Corporation.

Solution to Techdoku

from page 5

6	1	4	2	5	3
5	6	3	1	4	2
4	5	2	6	3	1
2	3	6	4	1	5
1	2	5	3	6	4
3	4	1	5	2	6

Solution to Sudoku

from page 5

7	2	4	3	6	9	1	5	8
9	3	8	1	5	4	7	2	6
1	6	5	8	7	2	9	3	4
8	4	6	9	1	5	3	7	2
5	9	7	2	4	3	6	8	1
2	1	3	6	8	7	5	4	9
4	5	9	7	2	1	8	6	3
6	7	1	4	3	8	2	9	5
3	8	2	5	9	6	4	1	7

Solution to Crossword

from page 6

C	A	N	D	O		T	I	S		G	A	R	B
A	V	I	A	N		S	H	O	T		O	V	A
D	O	T	T	E	D	L	I	N	E		Y	O	K
S	W	E	E	T	I	E	S		P	L	A	N	E
						D	I	V	E		A	D	O
M	A	H				M	A	K	E	S	A	S	C
U	S	A	G	E		M	I	D		O	X	E	N
S	T	I	R			C	L	A	S	S		N	E
I	O	T	A			O	I	L		S	E	R	V
C	R	I	M	I	N	A	L	A	C	T		T	E
						M	F	R		D	E	E	D
S	E	R	A	P	E		V	E	L	V	E	E	T
A	X	I	S			T	R	I	P	L	E	P	L
P	I	T	H			T	E	N		N	O	I	C
S	T	A	Y			I	D	O		S	T	E	T



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MIT SCHOOL OF HUMANITIES, ARTS, AND SOCIAL SCIENCES

Olympics Bid, from Page 1

said he believes MIT will play a role in educating youth about sports, health, and wellness. Additionally, he said MIT might provide educational programs for Olympic athletes to return to after the games.

He also said a Boston Olympics would be a chance for innovation and research. For example, he said Professor Carlo Ratti of the Department of Urban Studies and Planning and his colleagues would take the opportunity to help improve transportation infrastructure by using mobility patterns extracted from real-time urban data.

The USOC will choose a city to move on to the international competition in mid-January. The host city will be announced in the summer of 2017.

—Daisy Gomez

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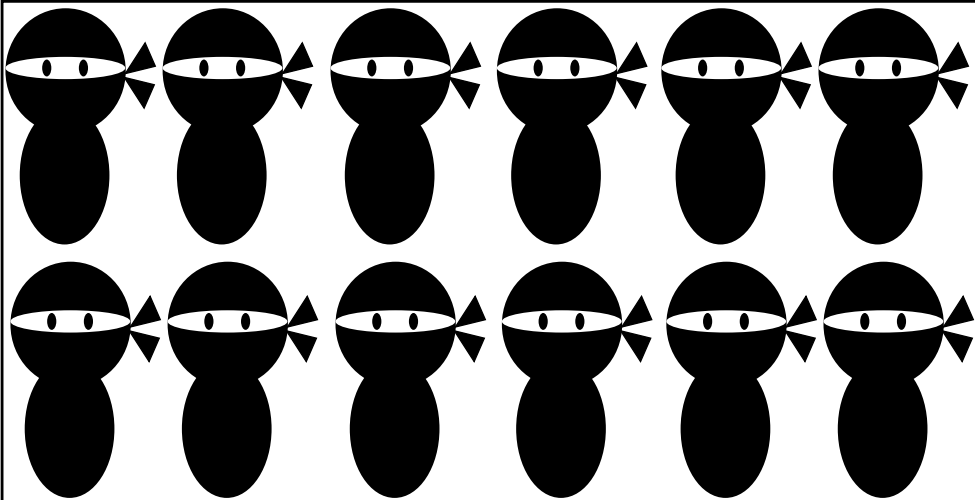
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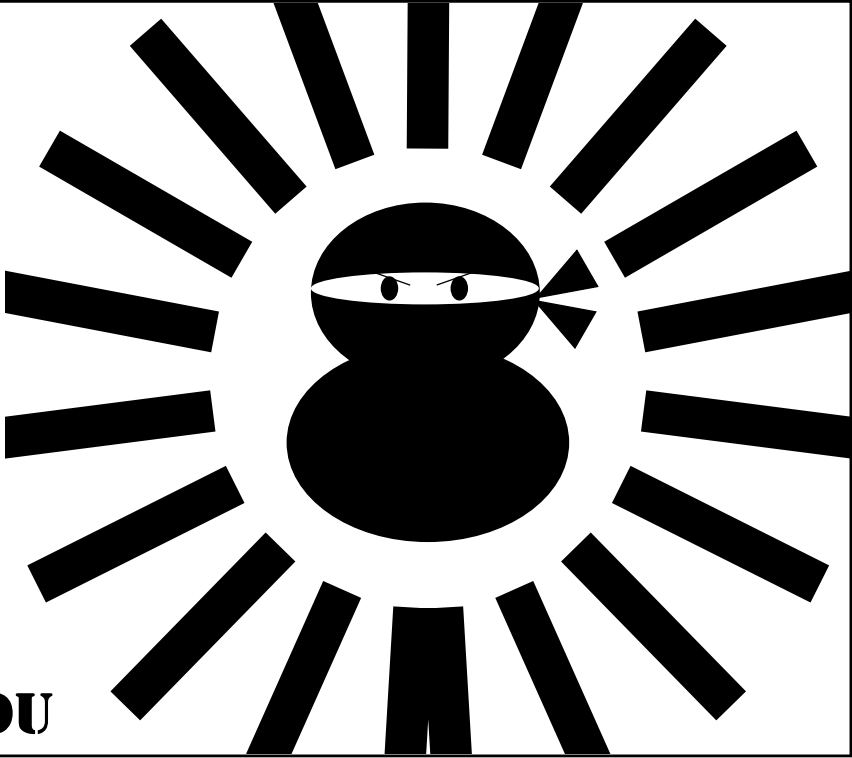
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Tyto Alba by Tina Zheng, published in *Rune* Issue 35

MIT Engineers defeat Gordon College 64-51

DAPER STAFF



Gordon opened the second half with a bas-

MIT will be back in action on Monday, November 24 when the Engineers will open at home against Newbury College at 7 p.m.

Friday, November 21

7 p.m., Zesiger Center Pool

Men's Heavyweight Crew vs. Foot of the Charles

Squash vs. Connecticut College

10 a.m., DuPont Squash Courts

Women's Swimming and Diving

College 1 p.m., Zesiger Center

Pool

Women's Swimming and Diving

College 1 p.m., Zesiger Center

Pool

Men's Swimming and Diving vs.

lege 1 p.m., Zesiger Center Pool

Men's Swimming and Diving vs.

lege 1 p.m., Zesiger Center Pool

Men's Basketball vs. Newbury College

7 p.m., Rockwell Cage

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—Austin Osborne



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